

# Exploration of a New Smart Pension Model in Anhui Province in the Digital Era: a Case Study of Bengbu

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## ABSTRACT

History continues, and the spirit of "filial piety" is passed down from generation to generation. As an indispensable part of Confucian culture, showing filial piety to parents and supporting both parents continuously promote social harmonious coexistence and actively promote the promotion of "filial piety" culture and Confucian tradition. With the development of The Times, the new technological revolution also enables the elderly care industry, bringing smart elderly care services. In order to better learn, carry forward and inherit the digital smart pension model, this special research team went to several communities in Bengbu city to conduct a special research on the new smart pension model. In the preparatory stage, the research team carried out a special study meeting of "Digital Enabling smart pension mode" to deeply study the current pension policy and lay a foundation for the practical theory in the later period. In the field research stage, the team interviewed the elderly in the community and related staff to understand their needs, puzzles and solutions in digital smart elderly care. In the practice summary stage, we found that the new smart pension model in Anhui Province in the digital era has positive significance for the elderly and community workers, but at the same time, the implementation of digital smart pension model is also faced with challenges in technical support, training and privacy protection.

## KEYWORDS

Digitization; Bengbu Citysmart; Smart pension model

## 1. INTRODUCTION

### 1.1. Research Background and Research Significance

#### 1.1.1. Research background

According to the National Bureau of Statistics survey, by the end of 2022, our country over 60 population has more than two hundred million people, accounting for 19.8% of the total population, our country has entered the moderately aging society, the growing development of society, the aging population is about to exceed 300 million, so the current society is facing a series of problems by the population aging. Such as the supply of labor force is insufficient, the elderly population of the service market is not mature, pension supporting facilities are not perfect. Therefore, the aging of the population is one of the core problems facing today's Chinese society, which is closely related to the national policy development and economic development. However, today's pension model can only basically meet the physiological needs of the elderly, failing to pay real attention to the reasonable

psychological concerns and health concerns of the elderly, and needs to be improved in relevant pension policies and supporting facilities.

### 1.1.2. Research meaning

At present, the old-age care environment in China is becoming increasingly severe. It is particularly important to carry out smart pension [1], reform the current old-age care form, and establish an old-age service system compatible with the process of aging population. At the same time, improving the content, quality and quantity of pension service supply, promoting the improvement of pension efficiency and the optimization of pension service process have become the focus of the new intelligent pension. In the digital era, any industry needs digital empowerment [2] to upgrade its digital industries, and the pension industry is no exception. As a new pension mode and digital application field, the smart pension itself has the advantages of macro-control, optimizing the pension structure, and improving the operational efficiency. At the same time, the smart pension can rely on the fourth industrial revolution [3] and rely on big data and artificial intelligence to improve its service level. By building a digital platform, the pension model can be concretized and visualized, constantly optimize the smart pension structure, and empower the pension industry so as to promote the continuous improvement of the pension level and content supply.

## 1.2. Research Status, Both At Home and Abroad

### 1.2.1. Current situation of overseas research

Wisdom pension concept was originally proposed by the British life trust fund, Britain mainly depends on the community to establish wisdom endowment service center, provide rich, convenient services, in order to better pay attention to the elderly health, provide high quality medical services, the British using the Internet information development including digital medical, remote medical and mobile medical medical pension way. In the United States, the research on smart pension was the earliest. In 1984, the country first launched smart pension buildings. Basically, by the end of the 20th century, the United States had established a medical insurance mobile network for the elderly, which greatly guaranteed the medical services for the elderly. At present, the mobile network of medical insurance has covered more than 1,000 cities in 50 states of the United States, including more than 12,500 branches. The smart pension industry has developed particularly rapidly in the United States and has become mature. At the same time, in order to better improve the level of their pension services, improve the operation efficiency of their pension system and reduce government expenditure, the elderly care service industry in the United States is no longer arranged by the government, supporting enterprises to participate in the elderly care service industry, introduce and expand market competition, and carry out commercial operation mode. Similarly, smart elderly care services are more commercialized and marketized based on the Internet. Due to the advantages of Internet resource endowment, the smart pension industry in the United States is developing rapidly. The US government supports enterprises to develop various smart pension products to meet the needs of the elderly. Various large high-tech enterprises actively research and develop smart pension products according to the US policies, so as to meet the diversified needs of the elderly and improve the quality of elderly care.

### 1.2.2. Status quo of domestic research

The construction of pension system in China is relatively slow, but with the continuous development of economy and society in recent years, the expanding pension demand, our pension system in progress and made remarkable achievements, at present our country preliminary formed on the basis of "occupy the home, community, institutions to supplement, medical combination of" pension service system, all kinds of pension must improve software and hardware facilities, relevant laws and regulations policies improve, but there are still four problems:

- (1) Socialized old-age care supply services are insufficient. At present, the general cognition of pension basically covers the basic physiological needs of the elderly, without taking into account their health and psychological needs. At the same time, the implementation of the pension supply is not popular enough, some towns and rural remote areas of the pension facilities are backward or missing.
- (2) The construction of the elderly service system is unbalanced, and it is difficult for rural elderly. For medium and large cities, the advantage of resource endowment determines that the richness of pension resources will be higher than that of rural areas. Rural areas are faced with many problems such as the loss of young and strong population, unknown labor force, and traffic blockage, resulting in rural pension is basically based on families. At the same time, the inherent conservative concept in rural areas also determines that the rural elderly have a certain resistance to other pension methods.
- (3) Insufficient investment in pension funds. In terms of the current situation, the state and the government provide relatively little funds for the construction of the pension system. The pension is generally piloted in key cities, but it cannot achieve the national popularization. At the same time, due to the small financial expenditure, coupled with the weak financial resources of the grassroots community, the investment in pension will be greatly reduced. The capital problem fundamentally restricts the transformation and upgrading of elderly care services to intelligent and digital services.
- (4) The supply of pension talents is insufficient. As a new industry, the pension service industry should attract more people to engage in the pension industry, but due to the low salary of the pension industry, it is difficult to form a direct ratio between the work intensity and the income. At the same time, the social recognition of the elderly care industry is low, which cannot further attract new employees. In addition, there are few relevant majors in various universities, and the corresponding talent reserve is insufficient, leading to the limited supply of talents in the pension industry.

### **1.3. Study Objectives and Study Methods**

#### **1.3.1. Research objectives**

This study aims to deeply explore the development status, existing problems and future development countermeasures of the new smart pension model in Bengbu city, Anhui province under the background of digital age. Through the comprehensive application of theoretical analysis and empirical research methods, this research is committed to reveal the importance of the smart pension model, analyze the challenges encountered in its practical application, and put forward feasible suggestions for improvement, in order to promote the innovation and improvement of the smart pension service model in Bengbu city and even Anhui Province. The purpose of this social practice survey mainly includes the following three aspects:

Explore the importance of the new intelligent pension model under the background of the digital age. At present, the problems existing in the new smart pension model in Bengbu city, Anhui Province Through the method of data mining [4], the development of new intelligent pension model in Anhui Province

#### **1.3.2. Research methods**

(1) Questionnaire survey method. This study will collect information on the cognition, demand and satisfaction of Bengbu elderly residents on the smart elderly care services by designing and distributing questionnaires. The questionnaire will cover the basic information, economic status, health status, social support status as well as awareness and needs for smart elderly care services. Through quantitative analysis, the questionnaire survey method is helpful to reveal the popularity of smart elderly care services and the actual needs of residents, and to provide data support for policy formulation and service quality improvement.

(2) Literature research method. The literature research method will be used to collect and analyze the research literature on smart pension at home and abroad, so as to understand the theoretical basis,

development dynamics and practical cases of smart pension. This will help to construct the theoretical framework of the research and provide theoretical guidance for the empirical analysis.

(3) Statistical analysis method. This study will analyze the data using the SPSS software. SPSS is a powerful statistical analysis tool, capable of processing and analyzing large amounts of data, performing descriptive statistics, correlation analysis, etc. Through statistical analysis, the study will verify the research hypothesis, reveal the relationship between variables, and provide scientific basis for proposing targeted countermeasures and suggestions.

## **2. EMPIRICAL ANALYSIS OF SMART ELDERLY CARE SERVICE IN BENGBU CITY**

### **2.1. Questionnaire Survey and Outcome Analysis**

#### **2.1.1. Questionnaire design**

This report focuses on exploring the progress of Bengbu in the field of smart elderly care services and its challenges, by collecting data through a five-part questionnaire survey. First, The first part collects the basic information about the respondents, including: gender, age, education level, marital status, living status, and the number of children; The second part is to understand the financial status of the respondents, including: pre-retirement occupation, monthly income, financial source subject, and whether the current financial situation is sufficient to support daily expenses; The third part investigates the health situation, The contents include: self-health assessment, hospitalization history and current illness; The fourth part evaluates the social support situation, involved: the choice of pension mode, insurance status, feeling lonely or not and the ability to take care of themselves; The last part focuses on the awareness and demand of smart elderly care services, At the same time, the scale method is used to deeply understand the preferences of the respondents for all kinds of intelligent elderly care services.

#### **2.1.2. Data sources**

According to our country in 2018 revised the definition of the law of the People's Republic of China on the elderly, the young elderly refers to the age between 60-69 years old, in the elderly refers to the age between 70 and 79 years old, the old elderly refers to the age over 80 years old, most of the old and functional degradation, voluntarily or not voluntarily from the original job, start into the pension life [1]. Through this winter vacation social practice survey, we hope to understand the real pension situation of the elderly in Bengbu today, so we conducted a systematic random sampling survey [5], which is divided into four stages. The specific sampling process is as follows:

At the beginning of the study, First, three representative regions were selected from the seven administrative regions included in Bengbu city, These areas are Longzi Lake District, Yuhui District and Huaiyuan County; Going to the next step, From the three selected boroughs, Each shall randomly select two towns or streets that reflect the average economic level of the district or county, Finally, seven locations, including Caoshan Street, Bairuquan Street, Longkang Town, Wanghuai Street, Lilou Township, Dongfeng Street and Jiefang Street, were determined; follow, For these seven township streets, And again, in each site, Select two villages or communities with medium economic development level as the research objects, A total of 15 communities such as Longhu Jiayuan, Huguang Community, Yunlong Guandi, Greenland International Flower Capital, Jade Villa and so on were selected; The last step, In the 15 selected village communities, Select some elderly people over 60 years of age, As a participant in the questionnaire survey.

Due to the influence of some objective factors, some communities did not plan within the scope of our in-depth investigation. Finally, our team issued a total of 350 questionnaires, and 280 valid questionnaires were collected, and the effective recovery rate reached 80%.

**Table 1.** Questionnaire reliability test

| Reliability statistic |                 |
|-----------------------|-----------------|
| Cronbach's Alpha      | number of terms |
| 0.816                 | 26              |

**Table 2.** Test of the validity of the questionnaire

| KMO and Bartlett                    |                               |          |
|-------------------------------------|-------------------------------|----------|
| The sphericity test of the Bartlett | Sampling is sufficient        | 0.803    |
|                                     | The Kaiser-Meyer-Olkin metric |          |
|                                     | Approximate chi square        | 5945.584 |
|                                     | df                            | 289      |
|                                     | Sig.                          | 0.000    |

In order to verify the reliability of the questionnaire data of smart elderly care service in Bengbu, the reliability and validity test of 280 collected questionnaires were tested through IBM-SPSS statistical analysis software. According to Table 1 and Table 2, the Cronbach's Alpha index of the questionnaire was 0.816, and the spherical degree test result of Bartlett was 0.803, showing the high internal consistency among the variables. This indicates that the reliability and validity of this questionnaire are relatively high, and after the reliability and validity verification [6], the data obtained are indeed suitable for the analysis of this study.

### 2.1.3. Descriptive analysis of the respondents' characteristics

#### (1) Basic information for older people

In terms of gender, among the 280 elderly people surveyed, 145 were male, accounting for 51.8% of the total sample size and 135 women, accounting for 48.2% of the total sample size; the proportion of men and women in the survey is basically the same, with women slightly less than men.

In terms of age distribution, the sample aged 60 to 64, 33.9% of the total, 78, 65 to 69, 27.9%; 56,70 to 74, 20%; 51, 75 and above, 18.2%; and those aged 60 to 64, the highest proportion.

Regarding marital status, a total of 58 older adults reported being widowed, or 20.7%. Especially among the elderly women aged 75 years and above, this phenomenon is more concentrated. The study suggests that older women are more emotionally dependent than older men, which sometimes leads to a depressive state. In terms of education level, the overall index of the elderly in Bengbu is relatively low.

In terms of education level, among the 280 elderly people who received the questionnaire, 34.6% had primary school education or below, 97; junior high school education, 36.4%, 102; 18.9% had high school or technical secondary school education, 53; and only 10% had junior college degree or above, 28.

In terms of the number of children, among the 280 elderly people who participated in the questionnaire, the vast majority were born before 1960, among which 78 elderly people had only one child, accounting for 27.9%. The number of elderly people with two children is the largest, with 101 in total, accounting for 36.1%, which is more common in Bengbu city. In addition, 7.1% of the elderly had no children, possibly for being unmarried or experiencing loss of only children, while 81, with three or more children, were 28.9%.

**Table 3.** Descriptive statistics of the basic information of the elderly in Bengbu city

| variable classes     | specific items                           | Number of people (people) | scale (%) |
|----------------------|--|---------------------------|-----------|
| sex                  | the male sex                             | 145                       | 51.8      |
|                      | femininity                               | 135                       | 48.2      |
| age                  | 60-64 Years old                          | 95                        | 33.9      |
|                      | 65-69 Years old                          | 78                        | 27.9      |
|                      | 70-74 Years old                          | 56                        | 20.0      |
|                      | Over 75 years old                        | 51                        | 18.2      |
| marital status       | married                                  | 194                       | 69.3      |
|                      | unmarried                                | 13                        | 4.6       |
|                      | dissociaton                              | 15                        | 5.4       |
|                      | bereft of one's spouse                   | 58                        | 20.7      |
| Education level      | Primary school and below                 | 97                        | 34.6      |
|                      | junior middle school                     | 102                       | 36.4      |
|                      | High school / technical secondary school | 53                        | 18.9      |
|                      | College degree or above                  | 28                        | 10.0      |
| quantity of children | defectus sanguinis                       | 20                        | 7.1       |
|                      | One                                      | 78                        | 27.9      |
|                      | Two                                      | 101                       | 36.1      |
|                      | Three or more                            | 81                        | 28.9      |
| the resident manner  | live alone                               | 51                        | 18.2      |
|                      | Live with your spouse                    | 145                       | 51.9      |
|                      | Live with your children                  | 56                        | 20.0      |
|                      | Other ways to live                       | 28                        | 10.0      |

## (2) The financial situation of the elderly

In terms of monthly income, among the elderly with the monthly income of 1001-3000 yuan is 105 people, accounting for 37.5%; then the elderly with a monthly income of not over 1000 yuan, accounting for 31.4%; the 20% with the monthly income of 3001-5000 yuan; and the elderly with a monthly income of over 5000 yuan is 11.1%.

The income sources of the elderly mainly include: retirement pension / pension, personal labor income and children's alimony. The survey found that some elderly people still work, especially men between their 60s and 70s. Specifically, personal labor income accounted for 22.9%; the proportion of retirement / pension was 29.6%; social assistance, property income, child support and other income accounted for 5%, 10.7%, 19.3% and 8.9% respectively.

About the pre-retirement occupation of the elderly, the elderly mainly farming are more. Finally, 82 farmers before retirement, accounting for 29.3% of the total sample; 7526.8% of the total sample; 42 teachers, doctors and other institutions, accounting for 15% of the total sample; 41 self-employed, accounting for 14.6% of the total sample; 25 civil servants, accounting for 8.9% of the total sample; 15 migrant workers, accounting for 5.4% of the total sample.

For the descriptive statistics of the financial situation of the elderly in Bengbu, the results are shown in Table 4:

**Table 4.** Descriptive statistics of the financial status of the elderly in Bengbu city

| variable classes                       | specific items                                  | Number of people (people) | scale (%) |
|--|---|---------------------------|-----------|
| Monthly income                         | Below 1,000 yuan                                | 88                        | 31.4      |
|  | 1001-3000 yuan                                  | 105                       | 37.5      |
|  | 3001-5000 yuan                                  | 56                        | 20.0      |
|  | More than RMB 5,000 yuan                        | 31                        | 11.1      |
| source of income                       | Individual labor income                         | 64                        | 22.9      |
|  | Retired, pension                                | 83                        | 29.6      |
|  | social assistance                               | 14                        | 5.0       |
|  | property income                                 | 30                        | 10.7      |
|  | Children are given alimony                      | 54                        | 19.3      |
|  | Relatives and friends to support                | 10                        | 3.6       |
|  | other   | 25                        | 8.9       |
| Pre-retirement occupation              | Enterprise worker                               | 75                        | 26.8      |
|  | Teachers, doctors and other public institutions | 42                        | 15.0      |
|  | Individual business personnel                   | 41                        | 14.6      |
|  | public functionary                              | 25                        | 8.9       |
|  | peasant   | 82                        | 29.3      |
|  | Migrant workers                                 | 15                        | 5.4       |
| Self-assessment of economic conditions | not enough                                      | 77                        | 31.1      |
|  | same as   | 116                       | 41.4      |
|  | enough  | 87                        | 27.5      |

### (3) The health of the elderly

The physical health of the surveyed elderly is normal. According to the health of the elderly, 108 were "unhealthy", accounting for 38.6% of the total sample number; secondly, 95 were "average", accounting for 33.9% of the total sample number; and 77 were "healthy", accounting for 27.5% of the total sample number.

From the average hospitalization of the elderly, the highest average hospitalization stay within 10 days was 134, accounting for 47.9% of the total samples; followed by 67 with an average hospitalization stay of 11-20 days, or 23.9% of the total samples; 46 with an average hospitalization stay of 21-30 days, accounting for 16.4% of the total samples; 33, accounting for 11.9% of the total sample number.

From the self-assessment of the self-care ability of the elderly, 113 elderly people were "fully self-care", accounting for 40.4% of the total sample number; secondly, 98 were "partially unable to self-care", accounting for 35% of the total sample number; and 69 were "completely unable to self-care", accounting for 24.6% of the total sample number. On the whole, the elderly in Bengbu have good self-care ability. The descriptive statistics of the elderly in Bengbu are shown in Table 5.

**Table 5.** Descriptive statistics of the health status of the elderly in Bengbu city

| variable classes                 | specific items                   | Number of people<br>(people) | scale (%) |
|----------------------------------|----------------------------------|------------------------------|-----------|
| Self-rated health status         | health                           | 77                           | 27.5      |
|                                  | same as                          | 95                           | 33.9      |
|                                  | ill health                       | 108                          | 38.6      |
| Annual hospitalization           | Within 10 days                   | 134                          | 47.9      |
|                                  | 11-20 Days                       | 67                           | 23.9      |
|                                  | 21-30 Days                       | 46                           | 16.4      |
|                                  | More than 30 days                | 33                           | 11.9      |
| He suffers from chronic diseases | not have                         | 44                           | 15.7      |
|                                  | A kind of                        | 92                           | 32.9      |
|                                  | Two kinds of                     | 105                          | 37.5      |
|                                  | Three or more                    | 39                           | 13.9      |
| Self-care ability                | Can't take care of yourself      | 69                           | 24.6      |
|                                  | Part can't take care of yourself | 98                           | 35.0      |
|                                  | complete self-help               | 113                          | 40.4      |

#### 2.1.4. Analysis on the demand degree of the elderly for smart pension services in Bengbu city

By analyzing the 15 types of smart elderly care services provided by Bengbu city, they are classified into four main areas: home care, health care and remote monitoring, psychological support, and personal development services. Then, according to the demand degree of the elderly for these services, the service content is divided into five levels, namely, no need, no need, need, more need and very need, and give a score of 1 to 5 points, so as to evaluate the demand situation of smart pension service in Zibo city.

**Table 6.** Demand for smart pension services for the elderly in Bengbu city

|  | service content                     | No need at all | non-essential | same as | Compare the need | Very much needed |
|--|-------------------------------------|----------------|---------------|---------|------------------|------------------|
| Home service                               | Smart wearable devices              | 16.9%          | 9.8%          | 28.6%   | 25.2%            | 19.5%            |
|  | Daily care services                 | 7.4%           | 9.2%          | 9.4%    | 26.7%            | 47.3%            |
|  | Home service call                   | 3.8%           | 13.5%         | 19.5%   | 28.4%            | 34.8%            |
|  | Daily shopping                      | 23.7%          | 24.6%         | 22.2%   | 13.6%            | 15.9%            |
|  | Agency payment                      | 28.9%          | 21.4%         | 23.4%   | 19.3%            | 7.0%             |
| Health care and remote monitoring services | Telemedicine services               | 2.0%           | 5.1%          | 14.7%   | 20.3%            | 57.9%            |
|  | Rehabilitation care services        | 3.6%           | 4.7%          | 19.2%   | 27.5%            | 45.0%            |
|  | Medication reminder                 | 8.1%           | 11.0%         | 24.5%   | 20.8%            | 35.6%            |
|  | Remote monitoring service           | 5.8%           | 9.7%          | 17.8%   | 21.2%            | 45.5%            |
|  | Emergency rescue services           | 7.2%           | 6.8%          | 19.3%   | 27.3%            | 39.4%            |
| Psychological support services             | Smart social services               | 6.1%           | 5.2%          | 19.3%   | 15.4%            | 54.0%            |
|  | Mental health counseling            | 6.8%           | 8.8%          | 24.2%   | 21.0%            | 39.2%            |
|  | Cultural and entertainment services | 2.6%           | 8.0%          | 35.5%   | 29.7%            | 24.2%            |
| Personal Development Services              | Legal advisory services             | 9.9%           | 16.2%         | 21.4%   | 25.2%            | 27.3%            |
|  | Smart elderly class                 | 19.2%          | 20.6%         | 27.1%   | 16.9%            | 16.2%            |

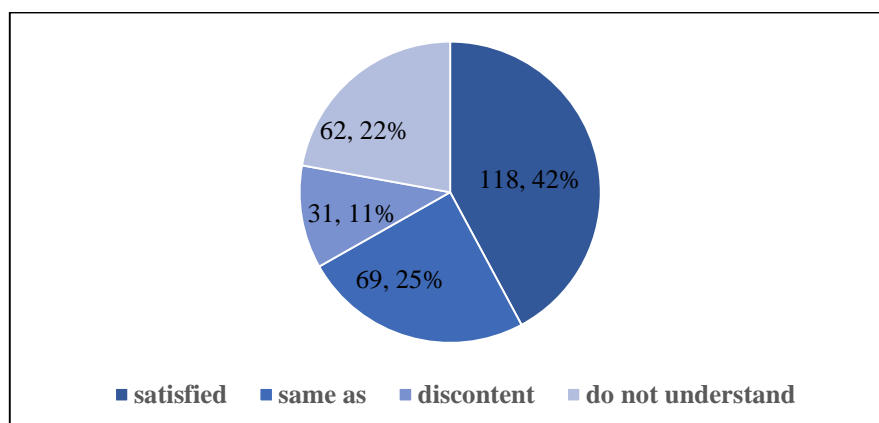
In the survey, although many elderly people are still able to take care of themselves in their daily lives, most people suffer from certain chronic diseases and rely on drugs to maintain their health. As their children are not around for years, their quality of life has been affected, and they are eager to get professional, efficient and convenient elderly care services. According to the feedback from the elderly in Bengbu, their need for smart elderly service projects exists widely, showing that smart elderly service service has a broad space for development in the city. According to their own health status and economic status, the elderly have different demands for different elderly care services.

By integrating and analyzing the questionnaire data, Found in the at-home service, The elderly, especially disabled, semi-disabled, empty nests and the elderly, have a prominent demand for daily care and domestic services, The mean scores were 3.973 and 3.769, respectively; In terms of health care and remote monitoring, In particular, the demand for telemedicine and rehabilitation care services is stronger in poor health, chronic diseases and elderly people living alone, The mean value reached 4.252 and 4.056, respectively; In terms of psychological support and personal development services, Young elderly people with better physical health and economic conditions have a higher demand for intelligent social networking and mental health counseling, The average were 4.06 and 3.77, respectively. In addition, the standard deviation of the 15 services is less than 1, indicating that the data is relatively concentrated and showing the reliability of the survey results.

Wisdom pension services, therefore, should be more carefully consider the specific needs of the elderly, take targeted measures, in order to make the wisdom pension services in Bengbu more effectively play its role, the elderly look forward to get better life guarantee and service quality, more comprehensive care and protect the material and spiritual needs of the elderly.

#### 2.1.5. Analysis of the satisfaction degree of the elderly in Bengbu

In the survey of the satisfaction of the elderly with the smart pension service in Bengbu, The results are shown in Figure Figure1, There were 118 elderly people who chose "satisfaction," Accounting for 42.1% of the total sample volume, Sixty-nine elderly people chose "average", Accounting for 24.6% of the total sample volume, Thirty-one elderly people chose "dissatisfaction," Accounting for 11.1% of the total sample volume, Another 62 elderly people chose "don't know" There is no way to evaluate the smart pension service in Bengbu city, Accounting for 22.2% of the total sample volume; Although most of the elderly people recognize the smart elderly care service in Bengbu, However, there are also many elderly people who do not know or even not satisfied with the smart pension service in Bengbu.



**Figure1.** Survey of satisfaction of smart elderly care services for the elderly in Bengbu city

In order to have a deeper understanding of the dissatisfaction of the elderly in Bengbu with the smart elderly care services, we have also made a more detailed survey, as shown in Table 4-8. And 243 elderly people chose the " high service fees, Difficult to pay for ", Accounting for 86.8% of the total population, The proportion is relatively high; 178 older people chose " underprofessionalism in service staff, Poor service quality ", Accounting for 63.6% of the total population; 170 elderly people

chose "smart elderly care service equipment for cumbersome operation", Accounting for 60.7% of the total population; 145 seniors adults chose " limited service programs, Difficulto meet the needs ", Accounting for 51.8% of the total population; Ninety-four elderly people choose that " the scope of smart pension development is limited, Service is difficult to access ", Accounting for 33.6% of the total population; Eighty-eight elderly people chose "inadequate infrastructure," Accounting for 31.4% of the total population; Seventy-nine elderly people chose " not properly policies, Do not know how to participate ", Accounting for 28.2% of the total population; And 31 older adults who chose the other, That there are other problems in Bengbu, Of 11.1% of the total population,

**Table 7.** Dissatisfaction of the elderly with smart elderly care service in Bengbu

| Specific items   | Number of people (people) | Proportion (%) |
|--|---------------------------|----------------|
| The relevant policy publicity is not in place, and the public do not know how to participate | 79                        | 28.2           |
| Service projects are limited, and it is difficult to meet the demand                         | 145                       | 51.8           |
| The scope of smart pension is limited, and the services are difficult to obtain              | 94                        | 33.6           |
| Service fees are high and difficult to pay   | 243                       | 86.8           |
| Infrastructure is not complete enough  | 88                        | 31.4           |
| The operation of the intelligent elderly care service equipment is cumbersome                | 170                       | 60.7           |
| Lack of service personnel, the lack of professionalism                                       | 178                       | 63.6           |
| other  | 31                        | 11.1           |

### **3. ANALYSIS OF THE DIFFICULTIES FACED BY THE SMART PENSION SERVICE IN BENGBU CITY**

#### **3.1. The Dilemma Faced by the Smart Elderly Care Service in Bengbu City**

##### **3.1.1. Fragmentation of the service systems**

Given that the smart elderly care service involves multiple departments and fields, the practice of its concept needs not only the actual industry, but also innovative and efficient technical support. The smart elderly care service needs to have a broad and thick development section. At present, the fragmentation problems existing in the field of intelligent elderly care service in Bengbu city are mainly reflected in three aspects: "decentralization of technology application", "inconsistency of service content", and "decentralization of service resources". In terms of service content, the lack of unified service standards and norms, which leads to different providers providing independent service items, resulting in duplication, cross or omission, unable to meet the comprehensive and continuous service requirements; inconsistent technology application requires the elderly to use different operation interfaces and processes, resulting to information sharing barriers and data incompatibility; at present, the "three-level" elderly service information platform is not mature, the lack of unified scheduling and integration mechanism, the non- "one-stop" service experience leads to the reduction of satisfaction.

##### **3.1.2. Lack of industrial endogenous power**

Bengbu smart pension service project is based on the livelihood project of health and pension, Therefore, it has a greater "public welfare nature", "Pension business" and "pension industry" still have a strong symbiosis and dependence, Taking the pension service institutions, a typical pension service industry, as an example, The introduction of sufficient social capital is an important boost to the transformation of the service and operation mode of pension institutions, It is also an important

way to improve the social service capacity of public institutions, Is an effective way to solve the financial problems of institutions, At present, the socialization reform of pension institutions in Bengbu city is still in the immature stage, The "pension industry" relies too much on public utilities, Lack of their own endogenous development power.

### 3.1.3. Technology development is not mature

As an emerging industry, there are still many deficiencies in its technology itself. In addition, the use and popularization of technology needs perfect supporting infrastructure, so the requirements for resources are more stringent in practical application. Bengbu has launched the "combination of medical care and nursing care" project to develop a smart health care model, including "smart rehabilitation", "telemedicine", "smart travel assistance", "smart wear", "smart community service" and other smart elderly care technologies. First of all, these technologies face many problems in the actual operation process: incomplete data collection and inaccurate identification system lead to lagging health monitoring response; long maintenance cycle and high maintenance costs; poor compatibility and stability for the elderly. technical problems emerge. At the same time, Bengbu has a large number of township population, and the difference of resource allocation between urban and rural areas makes it difficult to form a complete and efficient technical feedback chain in township areas, such as the lack of timely technology update in townships and the lack of convenient and reliable maintenance path. The development of smart pension technology has a long way to go.

### 3.1.4. Demand incentives are insufficient

By 2020, the elderly population over 60 years old in Bengbu accounts for about 18.03% of the total population, among which the elderly population over 65 years old accounts for 14.4%. In this huge target group, smart pension services still face obstacles that cannot be ignored, and the groups contacting smart pension services occupy a small part. First of all, the average level of education of the elderly is low, in the acceptance of new things, in the second, the elderly people rely on pension, subsidies, and relatively single income source, more of the traditional consumption concept, the cost of smart elderly service is high, many unaffordable service costs; in addition, smart elderly service products rely on the Internet of things, Internet and other modern technology, most of the elderly groups of the complex application to adapt, eventually because of the difficulty to operate the desire, so most of the needs of the elderly groups are not fully tap.

### 3.1.5. Lack of talent resources

According to the "14th Five-Year" pension service development plan of Bengbu, there will be more than 9,000 employees in Bengbu pension institutions in 2020, and the demand is still in short supply. The implementation of smart elderly care services lacks a large number of, high-quality, professional nursing talents, It is difficult to provide human resources matching with smart elderly care services, Nursing staff lack of deep understanding of the concept of smart pension, lack of understanding of the operation of information equipment and application, As a result, it is difficult to effectively introduce and integrate into the life experience of the elderly; at the same time, There is also a serious gap in the design and development talents of specialized products in the smart health and elderly care industry, At present, the research and development types of smart pension products in Bengbu are limited to the basic and common types and modules, Such as "smart bracelet", "voice robot" and other ubiquitous products emerging in the market, In the field of product personalization, humanization and practical improvement design, concept product transformation and implementation, the lack of professional team for precise attack, The whole smart pension industry lacks sufficient human resources to support it.

### 3.1.6. Privacy security

Smart elderly care service involves a large amount of personal information and data, and there are some hidden dangers in the information security during its operation and operation. On the one hand, the elderly themselves question the experience of the emerging concept of "wisdom"; on the other

hand, the network data in the information age and the risks of the elderly pension service objects belong to the "empty nesters" group, and the privacy security is difficult to be guaranteed, resulting in the distrust and disapproval of the intelligent pension service. Therefore, the market response is not common enough.

#### **3.1.7. Lack of actionable policy support**

The development of smart elderly care service affects the pension mode of the majority of elderly citizens, and considers its practical quality of life. As the smart elderly care service covers multiple fields and involves multiple departments, the overall planning is relatively difficult, so there is still a lack of perfect operational policies. Bengbu government around the "wisdom endowment service" policy formulation is mainly the information management level of endowment resources, focus on the "urban and rural tertiary center" and "community home medical combination" two projects, the wisdom pension policy less in the people's livelihood project planning, establish wisdom pension institutions clear goal but lack of detailed planning, practice policy lack of pertinence, ignoring the imbalance between urban and rural economic development of the actual, maneuverability is low. In addition, the policy focuses on financial subsidies for smart pension for the elderly, which does not solve the fundamental contradiction between the development of smart pension service in terms of industrial development and demand connection. The lack of effective policy support for the smart elderly service industry still needs to be attached to the slow development of "public utilities", and the actual implementation effect of the policy is low.

## **4. CONCLUSIONS AND SUGGESTIONS**

### **4.1. Establish Unified Standards and Norms**

The government should formulate unified standards and norms, strengthen cross-departmental and cross-field cooperation, and solve the problem of "fragmentation". It specifically includes the following six aspects: (1) Research and research: Conduct extensive research and research on various aspects of smart elderly care service in Bengbu city to understand the current situation of the industry, technology development and user needs. (2) Formulate standards: Based on the research results and industry needs, formulate unified standards for smart elderly care services in Bengbu city, including technical standards, service quality standards, safety standards, etc. (3) Formulate norms: Formulate detailed operating standards and detailed implementation rules according to the standards to guide the actual operation and management of smart elderly care services. (4) Industry cooperation: to promote cooperation among all parties, including government departments, industry associations, enterprises and academic institutions, to jointly promote the standardization process of smart elderly care services. (5) Publicity and promotion: strengthen the publicity and promotion of standards and norms, and improve the recognition and acceptance of industry practitioners and users. (6) Supervision and evaluation: establish a supervision mechanism, regularly evaluate and supervise the implementation of smart elderly care services, adjust the standards and norms in time, and maintain its adaptability and effectiveness.

### **4.2. Establish and Improve the Business Development Model**

The government and enterprises should strengthen cooperation, establish and improve the business model of smart elderly care service in Bengbu city, including setting reasonable charging standards, optimizing service process and improving service quality, etc.

#### **4.2.1. Establish reasonable charging standards**

The charging standard shall be determined according to the service content and quality level provided, such as basic service, value-added service, and collect different fees according to the service level and value-added content; the charging standard shall be clear and avoid hidden and opaque charges;

and follow relevant laws and regulations to ensure the compliance of the charging standards. Collect user feedback regularly, adjust the charging standard according to market demand and user satisfaction; flexibly adjust the charging strategy with the changing market competition and technological progress.

#### **4.2.2. Optimize the service process and improve the service quality**

Firstly, in terms of user demand analysis, understand the actual needs and feedback of the elderly and their families, analyze the user usage data, and find out the possible bottlenecks and problems in the service process; redesign the service process, ensure that the process is simple, clear, efficient, integrate different service links, reduce repeated steps, improve service efficiency, formulate standardized operation process, and reduce service differences.

Next, Introduce intelligent technology support, Integrated intelligent technology, Such as artificial intelligence, big data analytics, Improve the intelligent level of service, Using smart devices and sensors to monitor the health status of the elderly in Bengbu, Prevention and early intervention; Information exchange and sharing can establish a sound information system, To realize the information exchange and sharing between different service links, Ensure that older people and family members have easy access to and manage relevant information, Improve the transparency of services; Professional training for service personnel in improving personnel quality, Improve service skills and communication skills, Emphasize the responsibility and care consciousness of the service personnel, Establish a good service attitude.

Finally, a service evaluation mechanism should be set up to regularly evaluate and improve the service process. According to user feedback and data analysis, timely adjust the service process to adapt to market changes and user needs.

### **4.3. We will Strengthen Technological Research and Development and Innovation**

By increasing investment, promoting technology research and development and innovation, the technical level of smart elderly care service in Bengbu will be improved to meet the actual demand. Such as the establishment of research and development centers. We will set up a smart pension technology research and development center to gather professionals and promote technological innovation and application. Industry-university-research cooperation. Strengthen cooperation with universities and scientific research institutions, jointly carry out research on smart elderly care technology, and promote the transformation of technological achievements. Establishment of industry alliance: establish the smart pension industry alliance to attract relevant enterprises to participate in technological innovation and form a joint force. Open innovation platform. We will build a smart innovation platform for the elderly, and provide places for technical support, resource sharing, exchange and cooperation. Policy support. Formulate policies to support the innovation of smart pension technology, and provide support and incentives in terms of funds, taxation and talents. Strengthen international exchanges. Actively participate in international exchanges and cooperation in the field of smart elderly care, and learn from and introduce international advanced technology and experience. User demand-oriented. Fully investigate the needs of users, closely combine technology research and development and innovation with the actual needs of elderly care services, and promote the application of technology. Continuous optimization and improvement. Establish a technical feedback mechanism, continuously optimize and improve the smart elderly care service technology, and improve the user experience and service quality.

### **4.4. Improve Service Quality and Satisfaction**

Through an in-depth understanding of the needs of the elderly population, we can provide targeted services, pay attention to the spiritual needs of the elderly population, and improve the service quality and satisfaction. The specific aspects can be carried out from the following aspects:

Ensure that the staff have the necessary skills and knowledge to provide high-quality smart elderly care services. The training program should include technical operations, communication skills, and caring methods to better meet the needs of older adults.

Introduce advanced technology and equipment. Integrate advanced technology devices such as intelligent monitoring systems, health trackers and telemedicine services. This will improve the real-time performance and accuracy of services and help older adults better manage their health status.

Develop a personalized care plan. For each elderly service, enhance satisfaction.

Strengthen communication and transparency. Establish more effective communication channels, including regular meetings, online platforms, and messaging tools. Transparency helps older people and their families to understand the services provided and increase trust and satisfaction.

Increase community participation. Encourage community participation and build mutual aid networks and social activities. This helps older people maintain social contact and improve their quality of life, while also increasing satisfaction with the services.

Regular assessment and improvement. Regularly evaluate the service quality, collect the user feedback, and constantly improve according to the feedback. Continuous quality improvement will ensure that services are always consistent with the expectations and needs of older adults.

#### **4.5. We will Strengthen Personnel Training and Introduction**

Develop professional training plans: design professional training plans for smart elderly care services, covering relevant skills and knowledge fields. Cooperate with educational institutions to establish training courses to ensure that the training talents have practical operational and management skills.

Establish a bridge of cooperation: establish close contact with universities and research institutions, carry out joint research projects, and promote the development of smart elderly care service technology. Develop cooperation agreements, provide students with internship opportunities, and develop practical operation experience.

Set up an incentive mechanism: set up scholarships and honors to encourage students who have made outstanding achievements in the field of smart elderly care services. A selection mechanism will be established to encourage talents to make outstanding contributions to innovation and research.

Participate in international exchanges: promote international exchange of talents and attract international professionals to participate in the development of the field of smart elderly care services. Establish international talent cooperation projects, share experience and technology, and improve the international vision of talents.

Expand training channels: develop online training plans, so that more people can flexibly learn the knowledge related to smart elderly care services. Create a training resource sharing platform to facilitate talents to obtain real-time information and learning materials.

Provide career development support: set up career planning counseling services to help talents understand the industry development trends and provide guidance on career promotion. Provide continuous learning opportunities for talents to maintain their competitiveness in the field of smart elderly care services.

Optimize the introduction policies: formulate policies to attract talents, such as tax incentives, housing support, etc., to improve the attractiveness of imported talents. Simplify the introduction procedures and provide convenient conditions to ensure the smooth participation of imported talents in the work of smart elderly care services.

## 4.6. We will Strengthen Security

The security guarantee of smart elderly care services in Bengbu city can be strengthened from the following aspects:

**Technical support:** Use advanced information technology, such as the Internet of Things, intelligent sensors, big data, etc., to establish a security monitoring system for intelligent elderly care services to monitor the health status and living environment of the elderly in real time, and timely find and deal with potential security risks.

**Personnel training:** Strengthen the training of nursing staff, improve their safety awareness and the ability to deal with emergencies, and ensure that they can deal with various safety issues in a timely and effective manner.

**Policies and regulations:** Formulate and improve the policies and regulations related to the smart elderly care service, clarify the responsibilities and obligations of all parties, strengthen the supervision, and standardize the smart elderly care service market.

**Establish and improve the safety management system:** establish a sound safety management system for intelligent elderly care services, including the safety inspection system, emergency plan system, etc., to ensure the effective implementation of all safety measures.

**Social participation:** encourage all sectors of society to participate in the security work of smart elderly care services, and form a diversified security system with the participation of the government, enterprises and society.

**Health education:** strengthen health education for the elderly, improve their safety awareness and self-protection ability, and encourage them to actively participate in safety security work.

**Regular evaluation and feedback:** regularly evaluate and give feedback on the security work of smart elderly care services, find out problems and deficiencies in time, and take effective measures to improve and improve them.

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